<u>REMARKS</u>

Claims 11-30 are pending. Claims 11, 12, 25, and 28 are amended herein. Claims 18 – 21 are cancelled herein. Thus claims 11 – 17, 22 – 30 are presented for examination.

Applicant submits that support for these amendments can be found at least at, for example, in paragraphs [0011 - 0014], [0016], and [0020]. No new matter has been added.

<u>Response to rejections under 35 USC 103:</u>

Claims 11-19, 21, and 24-30 are rejected under 35 USC 103 as being unpatentable over Holender (US patent 5,727,051) in view of newly cited Beshai (U.S. Publication No. 200401145390. Claims 20 and 22-23 are rejected under 35 USC 103(a) as being unpatentable over Holender in view of Casaccia (U.S. Publication 20020177432) further in view of Fodor (US patent 6,788,646).

To facilitate the reconsideration of the rejection, the following discussion of the invention as claimed is presented herein for the Examiner's kind consideration and review.

Amended claim 11 recites, in part:

"...communication network comprises a plurality of pairs of marginal nodes at margins of the network, each pair associated with a **set of possible paths** comprising internal nodes and internal links leading through the communication network which run between each pair and through which the transmission occurs along **a possible path without explicit path reservation...**"

This recitation shows that the invention as claimed does not apply to communication networks with path reservation (as in Holender). Rather, the present invention as claimed applies to networks that communicate across marginal nodes along **any of a number of possible paths** without path reservation. Marginal node pairs as shown by example in the specification [0019] and Fig. 1 having 10 marginal nodes

may be referred to herein as (Ri, Rj) where j and I $\in$ {1,...10}. Each pair of marginal nodes can be associated with a set of possible paths leading through the network which run between the two marginal nodes [0011]. Since there is no path reservation [0013], traffic can be routed through any of the possible paths.

Claim 11 further recites the following steps to provide **access control at the margins** of the network by setting limit values **for each marginal pair** as follows:

"...(a) **initializing the limit values to a predetermined initial low value** such that substantially the same high blocking probabilities exist for all pairs of marginal nodes thereby avoiding an overload situation in the communication network;

(b) **iteratively increasing the limit values until an overload situation** is identified at one of the internal links,;

(c) **determining which of the pairs of marginal nodes contributed** to the overload situation at the identified internal link by determining which of the pairs have possible paths that run through the identified link;

(d) **setting the limit value for the pairs of marginal nodes that contributed** to the overload situation to a limit value of an immediately prior iteration;

(e) repeating steps (b) through (d) until limit values are set for all pairs of marginal nodes as overload situations are identified at other internal links, ..."

As shown above, the process for **providing access control at the margins** uses an iterative (step-by-step) process to force overload/congestion at a link, identify which pairs contributed to that overload/congestion based on whether the pairs have possible paths that run through the identified congested link, and then set access control at the margins only for those pairs. This is further explained in the specification paragraph [0020] by example where the method iteratively increases the limit values and at the fifth iteration an overload occurs at link L. The pairs in this example that contributed are pairs (R1, R2), (R2, R1), (R1, R3), (R3, R1), (R1, R4), and (R4, R1). So ONLY these marginal pairs have their limit value set to the prior iteration value to avoid overload/congestion. The other pairs remain unaffected and the process

continues to iteratively increase limit values until overload situations are identified so that all pairs have their limit values set at the margins.

Applicant submits that Holender is inapplicable to the present invention as claimed and does not disclose the required steps of the invention. As can be readily seen, no paths are reassigned in the present invention as in Holender (In Holender's steps 908-911, once a critical link is identified at 908, physical capacities can be **reallocated** between the various virtual paths traversing this critical link in such a way as to equalize the blocking values for each of the virtual paths). Holender solves congestion by reallocating capacities between virtual paths. The present invention performs no reallocation. Rather, it sets limit values at the margins to avoid congestion across the pairs that have the congested link. Moreover, Holender's entropy rate function still does not accomplish the steps of the present invention and is inapplicable. Accordingly, Holender fails to disclose many of the required steps of the invention.

Beshai fails to remedy the shortcomings of Holender. Although Beshai describes an edge-controlled network in which paths of adaptive capacity are established from each source node to each sink node, it still fails to disclose, describe, or suggest the steps of the present invention. Specifically, cited paragraph [0172] merely describes the link having the lowest capacity being the critical link of the route, *storage requirements* for the route sets at an edge node, and limiting the routes in the route set. Moreover, cited paragraph [0167] merely describes each edge node *storing a route* set to each other edge node where a route in a route set may be marked as unavailable when any of its hops is disabled. However, nowhere in Beshai is described **iteratively increasing the limit values** (i.e., lowering blocking) **until an overload situation** is identified, **determining which of the pairs of marginal nodes contributed** to the overload situation at the identified internal link by determining which of the pairs have possible paths that run through the identified link, and **setting the limit value for the pairs of marginal nodes that contributed** to the overload situation to a limit value of an immediately prior iteration.

Accordingly, without conceding the propriety of the proposed combination of Holender and Beshai, Applicant submits that the combination still fails to disclose,

describe, or suggest the elements of the present invention as claimed. Moreover, there is nothing in either reference to suggest a modification that could perform the steps as recited in the invention. Accordingly, Applicant submits that the combination fails to support an obviousness rejection and Applicant requests withdrawal of the rejection.

Neither Fodor nor Casaccia address the above issues, so the proposed combination does not meet the limitations of any claims herein.

The remaining independent claims have the same or similar limitations as discussed above with respect to claim 11. Accordingly, Applicant submits that claims 26 and 28 are also patentable based at least on the arguments submitted above.

The dependent claims incorporate all of the subject matter of their respective independent claims and add additional subject matter, which makes them a fortiori and independently patentable over the art of record. Accordingly, Applicant respectfully requests that the outstanding rejections of the dependent claims be reconsidered and withdrawn.
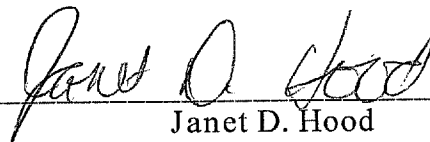
Conclusion

In view of the foregoing, this application should be in condition for allowance. A notice to this effect is respectfully requested.

The commissioner is hereby authorized to charge any appropriate fees due in connection with this paper, including fees for additional claims and terminal disclaimer fee, or credit any overpayments to Deposit Account No. 19-2179.

Respectfully submitted,

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